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Research
 (646) 780-8880
research@tigressfp.com

Trading
 (646) 780-8890
trading@tigressfp.com

Tigress Financial Partners LLC
 Member of FINRA / MSRB / SIPC
 410 Park Avenue
 New York, NY 10022
 (212) 430-8700
www.tigressfinancialpartners.com

Apple Inc. (AAPL-US)

Technology Hardware, Storage & Peripherals

- We reiterate our Strong Buy rating on AAPL and view the recent pullback as a major buying opportunity as the ability to monetize its base of over 750 million iPhone users and expand service revenues will continue to drive further upside in the stock.
- Business Performance continues to accelerate driven by global iPhone demand and the ability to make significant gains in its highly profitable Services revenue.
- AAPL's new growth drivers will continue to be the ongoing monetization from its base of over 750 million iPhone users and the ongoing expansion of its services business.
- AAPL can further grow its services base revenue by offering all-inclusive services on a subscription basis.
- AAPL continues to focus its efforts on expanding its music streaming service and increasing content access.
- The Apple Watch continues to drive AAPL's increasing presence in the fast-growing market for smart wearables.
- AAPL continues to develop new AI technologies and AR/VR capabilities for use in existing and future products.
- AAPL will be a leading provider of autonomous and connected vehicle technology.
- AAPL will continue to benefit from increasing emerging market demand including China, Russia, India, and Turkey.
- AAPL's strong balance sheet and cash flow will continue to fund growth along with enhancing shareholder returns through ongoing dividend increases and share repurchases.
- AAPL is on our Research Focus List and in our Focus Opportunity Portfolio.

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Company Note
Apple Inc. (AAPL-US)

Technology Hardware, Storage & Peripherals

Ivan Feinseth
 Director of Research
 (646) 780-8901 Direct
ifeinseth@tigressfp.com

Research Action:

Reiterate rating

Rating: Strong Buy

Prior Rating: Strong Buy

Price 12/07/2018: \$168.49

52 Week High / \$233.47

Low: \$150.24

Key Data: (TTM as of Sep-18)
Excess Cash per Share: \$46.61

Annual Dividend: \$2.92

Dividend Yield: 1.73%

Avg. Volume (30 Day): 42.0M

Shares Outstanding: 4,745.4M

Float: 4,738.7M

Short Interest: 41.8M

SI % / Float 0.88%

Equity MV: \$799,552.4M

Sales TTM: \$265,809.0M

Beta: 1.00

EBITDAR: \$103,334.9M

NOPAT: \$62,873.2M

Total Invested Capital: \$229,474.5M

Return on Capital: 24.22%

Cost of Capital: 6.98%

Economic Profit: \$44,742.4M

Market Value Added: \$692,789.1M

Current Operations Value: \$900,282.3M

Future Growth Value: \$21,981.3M

- We reiterate our Strong Buy rating on AAPL and view the recent pullback as a major buying opportunity as the ability to monetize its base of over 750 million iPhone users and expand service revenues will continue to drive further upside in the stock.** AAPL's Services business segment continues to emerge as one of the company's future drivers of growth and profitability, along with its ongoing development of new and fast-growing technologies including autonomous vehicle capabilities, artificial intelligence (AI) applications, and artificial reality (AR) virtual reality (VR) functionality and products. The ongoing expansion of AAPL's ecosystem along with the global growth of iPhone demand, especially in emerging markets with AAPL's ongoing focus of increasing its emerging market penetration will also further drive global growth and strong Business Performance trends. AAPL also continues to dominate the fast-growing smart wearables market which will continue to gain traction as more features and most importantly the inclusion of more advanced health monitoring capabilities continue to be incorporated into its functionality. AAPL's ongoing commitment to return significant amounts of cash to shareholders will also enhance the stock's total return. We believe significant upside in the shares exists from current levels and continue to recommend purchase.
- Business Performance continues to accelerate driven by global iPhone demand and the ability to make significant gains in its highly profitable Services revenue.** For the 12 months ending September 2018, Net Sales Revenue increased almost 16% Y/Y from \$229.4 billion to \$265.8 billion. We forecast a further increase of 5.2% to \$279.7 billion over the NTM. Economic Operating Cash Flow (EBITDAR) increased 15.9% Y/Y from \$89.2 billion \$103.3 billion over the LTM. We forecast a further increase of 5.6% to \$109.1 billion over the NTM. Net Operating Profit After Tax (NOPAT) increased 25.7% Y/Y from \$50.01 billion to \$62.9 billion over the LTM. We forecast a further increase of 2.1% to \$64.2 billion over the NTM. Return on Capital (ROC) increased from 18.61% to 24.22% over the LTM. We forecast a further increase to 26.5% over the NTM. Economic Profit increased 35.3% Y/Y from \$33.1 billion to \$44.7 billion over the LTM. We forecast a further increase of 9.5% to \$49.1 billion over the NTM. AAPL's increasing ability to monetize its user base and expand its services revenue will continue to drive an increasing Return on Capital and greater Economic Profit.

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Research: (646) 780-8880 research@tigressfp.com

 410 Park Avenue New York NY, 10022 (212) 430-8700 www.tigressfinancialpartners.com

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- **AAPL's new growth drivers will continue to be the ongoing monetization from its base of over 750 million iPhone users and the ongoing expansion of its services business.** AAPL continues to grow its services revenue which includes iTunes App Store, iCloud, AppleMusic, ApplePay along with other licensing and Internet services along with new initiatives in music and video streaming. Apple's current service revenue is now over \$50 billion a year and could double by 2020. The App Store continues to increase the number of applications which drives new features and functionality to Apple's ecosystem most importantly applications that enhance the functionality of the iPhone, iPad, and the Apple Watch. AAPL is also gaining traction with its NFC- (Near Field Connectivity) driven ApplePay service as the use of electronic wallets, and contactless payments continues to grow. ApplePay transactions have more than tripled on a Y/Y basis and now has completed more mobile transactions than PayPal (PYPL-US, Non-Rated). Further, AAPL can drive increasing ecosystem expansion and user base penetration through the possibility of offering an all-inclusive membership service on a subscription basis.
- **AAPL can further grow its services base revenue by offering all-inclusive services on a subscription basis.** There is increasing speculation that Apple could launch an "Apple Prime" type of subscription service that combines Apple Music, iCloud storage, AppleCare and even the expected Apple video streaming service. A subscription service would allow AAPL to further monetize its over 750 million current iPhone users. AAPL could also offer a hardware subscription program that could shorten the replacement cycle. With the iPhone's average selling price of just under \$800, Apple could charge \$33 a month to replicate a 24-month replacement cycle. The current replacement cycle is approximately 26 months in the U.S. and slightly longer internationally. AAPL could further increase the appeal of a subscription-based service as it continues to expand its efforts in music and video streaming.

- **AAPL continues to focus its efforts on expanding its music streaming service and increasing content access.** AAPL recently acquired Platoon, a platform that enables it to work directly with artists and bypass music labels. Platoon works with musicians, writers, and producers and has its own recording studios enabling artists to distribute their work and increases AAPL's ability to source talent and content. AAPL is also exploring the ability to incorporate terrestrial radio as a platform to further expand its music streaming services. Music streaming and video streaming are strong drivers of subscription-based services, and AAPL's significant user base represents a massive target market. The addition of other connected products including AAPL's HomePod will also drive increasing demand for music services. AAPL's recently added new immersive listening capabilities to its HomePod including connectivity to a multiroom audio system. In addition, Charter Communications (CHTR-US, Non-Rated) will begin offering Apple TV 4K to customers in close to 50 million U.S. households. Access to live channels and on-demand programs will be part of the Spectrum TV app on Apple TV 4K along with apps on the iPhone and iPad as well which will continue to drive AAPL's ability to further monetize its user base.
- **The Apple Watch continues to drive AAPL's increasing presence in the fast-growing market for smart wearables.** AAPL continues to add great functionality to its Apple Watch most importantly the recent heart rate monitor and EKG functionality. Healthcare applications will continue to drive increasing demand for smart wearables as users can improve their ability to monitor their health and fitness as well as other types of personal activity monitoring functionality.
- **AAPL continues to develop new AI technologies and AR/VR capabilities for use in existing and future products.** AI and AR/VR technologies continue to improve features and capabilities of many of AAPL's products along with the ability to increase security and efficiency and predictive capabilities. Combined with internal development efforts, AAPL continues to make strategic acquisitions of companies with expertise in AI and VR/AR hardware along with 3D gaming and virtual reality software. AAPL introduced its third-party developer ARKit to create AR experiences on its iOS platform. AAPL will continue to develop new products to increase its participation in the fast-growing Internet of things (IoT) market of connected and automated devices, appliances and automobiles.

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- **AAPL will be a leading provider of autonomous and connected vehicle technology.** This past summer, AAPL announced its development of self-driving AI technology. Apple recently invested \$1 billion in Chinese ridesharing company Didi Chuxing, enabling it to collect data and develop connected car technology while gaining a foothold in the large Chinese ridesharing and automobile market. AAPL also recently received a permit for testing self-driving car technology from the California Department of Motor Vehicles.
- **AAPL will continue to benefit from increasing emerging market demand including China, Russia, India, and Turkey.** Emerging markets are now accounting for 46% of iPhone worldwide demand with developing markets accounting for 54%. China currently represents 50% of apples emerging markets iPhone demand with Russia becoming the next largest followed by Turkey, India, Vietnam, and Mexico. The growing middle class in emerging markets and the ongoing investment in 4G and the upcoming 5G networks will drive increasing demand for connected devices and apples strong brand equity continues to drive its ability to gain market share over lower-priced and local product offerings.
- **AAPL's strong balance sheet and cash flow will continue to fund growth along with enhancing shareholder returns through ongoing dividend increases and share repurchases.** AAPL currently has close to \$224 billion, \$46.61, per share, in excess cash. Also, we forecast that AAPL will generate an additional \$109.1 billion in Economic Operating Cash Flow (EBITDAR) over the NTM enabling it to continue to fund its massive return of capital to shareholders. In May of this year, increased its quarterly dividend 16% from \$0.63 a share to \$0.73 a share which was above its five-year annual average dividend growth rate of 11%. Also, in May, AAPL announced an additional open market purchase for \$100 billion worth of stock which follows previous announcements of the purchase of \$35 billion worth of stock in both 2017 and 2016 and a \$50 billion repurchase announcement in 2015. Since announcing its initial purchase of \$10 billion worth of stock in 2012, AAPL has announced total open market purchases of \$310 billion. Since 201 AAPL has repurchased a total of \$239 billion worth of stock. Including dividends since 2012 Apple has returned a total of \$323.2 billion to shareholders.
- **AAPL is on our Research Focus List and in our Focus Opportunity Portfolio.** AAPL's strong brand equity, innovative ability, and leading global position together with its powerful cash generation will continue to drive increasing return on capital and greater shareholder value creation.

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Investment Thesis

AAPL continues to remain an undervalued stock relative to its economic earnings power, brand equity, loyal customer base, cash generation ability, incredibly strong balance sheet, and ability to innovate to create new products as it continues to expand its ecosystem. The ever-growing AAPL user base and ecosystem continues to drive increased growth in its highly profitable services business. We believe AAPL's ongoing ability to grow the iPhone user base globally along with its ever-expanding ecosystem, which will eventually include the connected home and connected car, together with its ability to continually return large amounts of cash to shareholders and continue to drive greater shareholder value creation.

Company Overview

Apple Inc. (AAPL-US) is the world's leading designer, manufacturer, and marketer of personal computers and mobile communication and media devices, along with related software, services, peripherals, and networking solutions. Apple has also expanded into new markets of connected devices and services that compile its connected ecosystem including the Apple Watch, Apple TV, Apple Music, HomeKit, HealthKit, and CareKit. Apple recently announced the introduction of a Siri-integrated home control interface speaker called HomePod to compete with Amazon's Alexa-based Echo and Google Home. Apple also operates iTunes which is the world's largest application and content distribution and management platform and iCloud which is its cloud storage and computing service. Apple sells its products worldwide through a combination of its retail and online stores along with its direct sales force, retailers, and third-party wholesalers.

Apple operates and reports its revenue by five Business Segments: iPhone (63% of revenue); Services which includes iTunes, iCloud along, AppleCare and Apple Pay (14% of revenue); Mac (10% of revenue); iPad (7% of revenue); and Other Products (7% revenue).

Apple reports its revenue by Geographic Segments including: United States (37% of revenue); Europe (24% revenue); greater China (20% of revenue); Japan (8% of revenue); Rest of Asia Pacific (7% of revenue); and the Americas (5% of revenue).

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Company Report – Research Update
Apple Inc. (AAPL-US)
Technology Hardware, Storage & Peripherals
Financial Data

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	09/28/2013	09/27/2014	09/26/2015	09/24/2016	09/30/2017	09/29/2018	09/30/2019		Average	Average	Trend
Net Sales Revenue	\$170,866.0	\$183,244.0	\$231,283.0	\$214,226.0	\$229,388.0	\$265,809.0	\$279,685.0	\$224,790.0	\$236,474.3	\$272,747.0	
<i>Sales Growth</i>	9.55%	7.24%	26.22%	-7.37%	7.08%	15.88%	5.22%	9.81%	5.19%	10.55%	
<i>Sales Growth Trend</i>	23.18%	8.17%	18.63%	6.06%	1.30%	12.36%	9.48%	9.30%	6.57%	10.92%	
Operating Cash Flow (EBITDAR)	\$61,964.4	\$69,283.0	\$89,837.0	\$84,155.9	\$89,163.1	\$103,334.9	\$109,104.5	\$87,154.8	\$92,218.0	\$106,219.7	
<i>EBITDAR Margin</i>	36.26%	37.81%	38.84%	39.28%	38.87%	38.88%	39.01%	38.74%	39.01%	38.94%	
<i>EBITDAR Growth</i>	-1.68%	11.81%	29.67%	-6.32%	5.95%	15.89%	5.58%	11.40%	5.17%	10.74%	
Net Operating Profit Before Tax (NOPBT)	\$50,087.4	\$54,579.0	\$69,719.0	\$62,666.9	\$66,325.1	\$76,995.9	\$81,232.9	\$66,057.2	\$68,662.6	\$79,114.4	
<i>NOPBT Margin</i>	29.31%	29.78%	30.14%	29.25%	28.91%	28.97%	29.04%	29.41%	29.04%	29.01%	
<i>NOPBT Growth</i>	-10.36%	8.97%	27.74%	-10.11%	5.84%	16.09%	5.50%	9.70%	3.94%	10.80%	
Cash Operating Income Tax	\$13,100.3	\$14,259.4	\$18,383.7	\$16,016.0	\$16,287.1	\$14,122.7	\$17,058.9	\$15,813.8	\$15,475.3	\$15,590.8	
<i>Economic Tax Effective Rate</i>	26.15%	26.13%	26.37%	25.56%	24.56%	18.34%	21.00%	24.19%	22.82%	19.67%	
Net Operating Profit After Tax (NOPAT)	\$36,987.0	\$40,319.7	\$51,335.3	\$46,651.0	\$50,038.0	\$62,873.2	\$64,174.0	\$50,243.4	\$53,187.4	\$63,523.6	
<i>NOPAT Margin</i>	21.65%	22.00%	22.20%	21.78%	21.81%	23.65%	22.95%	22.29%	22.41%	23.30%	
<i>NOPAT Growth</i>	-11.55%	9.01%	27.32%	-9.12%	7.26%	25.65%	2.07%	12.02%	7.93%	13.86%	
Cash & Equivalents	\$146,761.0	\$155,239.0	\$205,666.0	\$237,585.0	\$268,895.0	\$237,100.0	\$259,584.6	\$220,897.0	\$247,860.0	\$248,342.3	
Total Assets	\$207,000.0	\$231,839.0	\$290,479.0	\$321,686.0	\$375,319.0	\$365,725.0	\$400,407.3	\$317,009.6	\$354,243.3	\$383,066.1	
Non - Interest Bearing Liabilities (NIBLs)	\$65,532.0	\$83,788.0	\$106,662.0	\$106,405.0	\$125,592.0	\$144,095.0	\$157,759.8	\$113,308.4	\$125,364.0	\$150,927.4	
Net Assets	\$141,468.0	\$148,051.0	\$183,817.0	\$215,281.0	\$249,727.0	\$221,630.0	\$242,647.5	\$203,701.2	\$228,879.3	\$232,138.8	
Economic Asset Adjustments	\$17,399.1	\$19,061.5	\$23,348.2	\$32,717.8	\$40,029.4	\$7,844.5	\$8,588.4	\$24,600.3	\$26,863.9	\$8,216.5	
Net Operating Assets	\$158,867.1	\$167,112.5	\$207,165.2	\$247,998.8	\$289,756.4	\$229,474.5	\$251,235.9	\$228,301.5	\$255,743.2	\$240,355.2	
Debt & Debt Equivalents	\$21,049.1	\$39,693.5	\$69,984.2	\$93,715.8	\$124,023.4	\$122,711.5	\$134,348.4	\$90,025.7	\$113,483.6	\$128,530.0	
Equity & Equivalents	\$123,549.0	\$111,547.0	\$119,355.0	\$128,249.0	\$134,047.0	\$107,147.0	\$117,307.9	\$120,069.0	\$123,147.7	\$112,227.5	
Total Capital - Financing Sources	\$144,598.1	\$151,240.5	\$189,339.2	\$221,964.8	\$258,070.4	\$229,858.5	\$251,656.3	\$210,094.7	\$236,631.2	\$240,757.4	
Capital Adjustments	\$13,310.0	\$14,663.0	\$17,826.0	\$26,034.0	\$31,686.0	(\$384.0)	(\$420.4)	\$17,965.0	\$19,112.0	(\$402.2)	
Net Capital Financing Sources	\$157,908.1	\$165,903.5	\$207,165.2	\$247,998.8	\$289,756.4	\$229,474.5	\$251,235.9	\$228,059.7	\$255,743.2	\$240,355.2	
Net Working Capital	(\$1,316.7)	(\$3,228.8)	(\$10,187.9)	(\$16,922.7)	(\$16,349.6)	(\$17,789.6)	(\$19,476.6)	(\$12,895.7)	(\$17,020.6)	(\$18,633.1)	
<i>Cost of Net Working Capital</i>	(\$91.9)	(\$138.3)	(\$402.2)	(\$859.6)	(\$1,049.7)	(\$1,192.1)	(\$1,305.1)	(\$728.4)	(\$1,033.8)	(\$1,248.6)	
<i>% of Revenue</i>	-0.05%	-0.08%	-0.17%	-0.40%	-0.46%	-0.45%	-0.47%	-0.31%	-0.44%	-0.46%	
Operational Capital	\$19,369.4	\$21,793.7	\$17,805.3	\$16,771.1	\$25,776.8	\$31,742.9	\$34,753.2	\$22,778.0	\$24,763.6	\$33,248.1	
<i>Cost of Operational Capital</i>	\$1,271.2	\$1,252.5	\$1,187.0	\$1,096.4	\$1,342.4	\$2,008.5	\$2,199.0	\$1,377.4	\$1,482.4	\$2,103.7	
<i>% of Revenue</i>	0.74%	0.68%	0.51%	0.51%	0.59%	0.76%	0.79%	0.61%	0.62%	0.77%	
Productive Capital	\$25,125.4	\$30,551.7	\$26,814.3	\$25,391.1	\$33,791.8	\$31,742.9	\$34,753.2	\$29,658.4	\$30,308.6	\$33,248.1	
<i>Cost of Productive Capital</i>	\$1,649.1	\$1,694.2	\$1,719.6	\$1,655.4	\$1,867.2	\$2,288.4	\$2,505.4	\$1,844.9	\$1,937.0	\$2,396.9	
<i>% of Revenue</i>	0.97%	0.92%	0.74%	0.77%	0.81%	0.86%	0.90%	0.82%	0.82%	0.88%	
Total Operating Capital	\$20,649.4	\$21,035.7	\$13,063.3	\$21,125.1	\$32,330.8	\$5,664.9	\$6,202.2	\$18,644.0	\$19,706.9	\$5,933.6	
<i>Cost of Total Operating Capital</i>	\$1,417.7	\$1,268.4	\$1,022.2	\$1,084.1	\$1,686.5	\$1,326.8	\$1,452.6	\$1,277.6	\$1,365.8	\$1,389.7	
<i>% of Revenue</i>	0.83%	0.69%	0.44%	0.51%	0.74%	0.50%	0.52%	0.57%	0.58%	0.51%	
Non - Operating Capital	\$138,217.7	\$146,076.8	\$194,101.9	\$226,873.7	\$257,425.6	\$223,809.6	\$245,033.8	\$209,657.5	\$236,036.3	\$234,421.7	
<i>Cost of Non - Operating Capital</i>	\$8,558.0	\$8,650.6	\$10,197.3	\$13,348.5	\$15,279.5	\$16,804.0	\$18,397.6	\$12,856.0	\$15,144.0	\$17,600.8	
<i>% of Revenue</i>	5.01%	4.72%	4.41%	6.23%	6.66%	6.32%	6.58%	5.67%	6.40%	6.45%	
Total Capital	\$158,867.1	\$167,112.5	\$207,165.2	\$247,998.8	\$289,756.4	\$229,474.5	\$251,235.9	\$228,301.5	\$255,743.2	\$240,355.2	
<i>Cost of Total Capital</i>	\$9,975.7	\$9,919.0	\$11,219.5	\$14,432.6	\$16,966.1	\$18,130.8	\$19,850.2	\$14,133.6	\$16,509.8	\$18,990.5	
<i>% of Revenue</i>	5.84%	5.41%	4.85%	6.74%	7.40%	6.82%	7.10%	6.24%	6.98%	6.96%	
Cost of Capital (WACC)	6.80%	6.09%	6.00%	6.34%	6.31%	6.98%	6.98%	6.34%	6.55%	6.98%	
Capital Structure											
Debt & Debt Equivalents	\$21,049.1	\$39,693.5	\$69,984.2	\$93,715.8	\$124,023.4	\$122,711.5	\$134,348.4	\$90,025.7	\$113,483.6	\$128,530.0	
<i>Debt & Debt Equivalents % of Market Value</i>	4.58%	6.17%	9.66%	13.37%	13.48%	10.12%	10.12%	10.71%	12.01%	10.12%	
Preferred Equity	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
<i>Preferred Equity % of Market Value</i>	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Market Value of Common Equity	\$438,576.9	\$603,277.6	\$654,159.3	\$607,331.4	\$796,064.9	\$1,090,307.5	\$1,193,703.1	\$750,228.1	\$831,234.6	\$1,142,005.3	
<i>Common Equity % of Market Value</i>	95.42%	93.83%	90.34%	86.63%	86.52%	89.88%	89.88%	89.29%	87.99%	89.88%	
Total Economic Market Value (MV)	\$459,626.0	\$642,971.1	\$724,143.4	\$701,047.2	\$920,088.3	\$1,213,019.0	\$1,328,051.5	\$840,253.8	\$944,718.2	\$1,270,535.2	
<i>Total %</i>	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
Excess Cash	\$138,217.7	\$146,076.8	\$194,101.9	\$226,873.7	\$257,425.6	\$223,809.6	\$245,033.8	\$209,657.5	\$236,036.3	\$234,421.7	
Economic Enterprise Value	\$321,408.3	\$496,894.3	\$530,041.6	\$474,173.5	\$662,662.7	\$989,209.4	\$1,083,017.7	\$630,596.3	\$708,681.9	\$1,036,116.6	
Average Capital	\$145,833.8	\$161,905.8	\$186,534.3	\$227,582.0	\$268,877.6	\$259,615.4	\$240,355.2	\$220,903.0	\$252,025.0	\$249,985.3	
Capital Δ	\$24,148.5	\$7,995.4	\$41,261.7	\$40,833.6	\$41,757.6	(\$60,281.9)	\$21,761.4	\$14,313.3	\$7,436.4	(\$19,260.2)	

Source: Company Data, Financial statements and Tigress Research

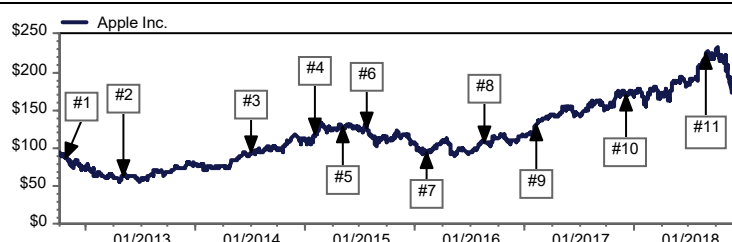
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Research: (646) 780-8880 research@tigressfp.com

410 Park Avenue New York NY, 10022 (212) 430-8700 www.tigressfinancialpartners.com

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Apple Inc. (AAPL-US)
Technology Hardware, Storage & Peripherals
Ratings History

Apple Inc. (AAPL-US)				
Item #	Date	Research Action	Rating	Price
#11	08/30/2018	Reiterate Rating	Strong Buy	\$225.03
#10	12/04/2017	Reiterate Rating	Strong Buy	\$169.80
#9	02/07/2017	Reiterate Rating	Strong Buy	\$131.53
#8	08/22/2016	Reiterate Rating	Strong Buy	\$108.51
#7	02/08/2016	Reiterate Rating	Strong Buy	\$95.01
#6	07/22/2015	Reiterate Rating	Strong Buy	\$125.22
#5	05/01/2015	Reiterate Rating	Strong Buy	\$128.95
#4	02/04/2015	Reiterate Rating	Strong Buy	\$119.56
#3	07/07/2014	Reiterate Rating	Strong Buy	\$95.97
#2	03/18/2013	Reiterate Rating	Strong Buy	\$65.10
#1	10/25/2012	Initiation of Coverage	Strong Buy	\$87.08


Tigress Research Methodology Overview

We employ proprietary quantitative valuation models combined with dynamic fundamental analysis based on the principles of Economic Profit to formulate timely and insightful investment ratings, analysis, strategies, and recommendations.

We make key adjustments to reported financial data eliminating GAAP-based accounting distortions and measuring all companies on a cash operating basis.

Our proprietary research framework is a multi-factor model that scores and ranks companies based on their risk-adjusted ability to create Economic Profit relative to their current market value focusing on three key components:

Business Performance: Measuring economic profitability, growth and operating efficiency.

Risk: Measuring business sustainability, volatility, strength, and consistency.

Valuation: Linking business performance to market value. Measuring value created relative to capital employed and enterprise multiples of economic profit and cash flow.

We score and rank 24 key measurements of performance, risk, and value into relative market and industry investment recommendations.

Glossary of Key Terms and Measures

Excess Cash per Share:	Excess Cash per Share is the amount of excess cash divided by basic shares outstanding. Excess Cash consists of all cash and short-term securities less operating cash needed to run the business. Operating Cash is 5% of TTM net sales revenue.
EBITDAR:	Earnings Before Interest, Taxes, Depreciation, Amortization, and Restructuring and Rent Costs. This is especially important when comparing companies that use a significant amount of leased assets like restaurants and retailers.
NOPAT:	Net Operating Profit after Tax represents a company's after-tax cash operating profit excluding financing costs.
Total Invested Capital:	Total Invested Capital the total cash investment that shareholders and debt holders have made during the life of the company.
Return on Capital:	Return on Capital equals NOPAT divided by Total Invested Capital. It is a key measure of operating efficiency. ROC quantifies how well a company generates cash flow relative to the capital invested in its business.
Cost of Capital:	Is the proportionately weighted cost of each category of capital – common equity, preferred equity and debt.
Economic Profit:	Economic Profit is the net operating income after tax less the opportunity cost of the total capital invested. It is the most important driver of shareholder value.
Current Operations Value:	Current Operations Value is the portion of market value based on the discounted present value of the current earnings stream assuming it remains constant forever.
Future Growth Value:	Future Growth Value is the portion of market value based on un-earned Economic Profit

For more information on the key terms and measures, please review the Tigress Investment Research Guide to Company Valuation and Analysis.

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Contacts

Ivan Feinseth
 Director of Research
 (646) 780-8901 Direct
ifeinseth@tigressfp.com

Aaron Ju
 Research Analyst
 (646) 780-8887 Direct
aaronju@tigressfp.com

Steven Pikowski
 Operations / Sales & Trading
 (646) 780-8894 Direct
spikowski@tigressfp.com

Barney Greengrass
 Capital Markets / Sales & Trading
 (646) 780-8914 Direct
bgreengrass@tigressfp.com

Ernest Williams
 Capital Markets / Sales & Trading
 (646) 780-8886 Direct
ewilliams@tigressfp.com

Jeanine Cerligione
 Capital Markets / Sales & Trading
 (646) 780-8902 Direct
jcerligione@tigressfp.com

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Rating:	Meaning:
Strong Buy:	Expect significant price gains in the price of the stock relative to its industry peer group and general market over the next 12 months.
Buy:	Expect out-performance for the price of the stock relative to its industry peer group and general market over the next 12 months.
Neutral:	Expect little or no outperformance opportunity over the next 12 months.
Underperform:	Expect underperformance for the price of the stock relative to its industry peer group and general market over the next 12 months.
Sell:	Expect price decline or significant relative market and industry underperformance over the next 12 months.
Not Rated	No Current Research Rating

Rating Distribution (12/07/2018)

	Companies Under Coverage		Relationship Companies Under Coverage*	
	#	%	#	%
Strong Buy:	16	14%	1	15%
Buy:	51	44%	5	70%
Neutral:	43	38%	1	15%
Underperform:	5	4%	0	0%
Sell:	0	0%	0	0%
Not Rated	NA	NA	65	NA
Total	115	100%	72	100%

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Company:	Disclosure:
Apple Inc. (AAPL-US)	14

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